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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,260	06/25/2003	David Vincent Zyzak	9114ML	4525

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EXAMINER	
HENDRICKS, KEITH D	

ART UNIT	PAPER NUMBER
1761	

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/606,260	ZYZAK ET AL.	
	Examiner	Art Unit	
	Keith Hendricks	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 10/06/03 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3-11-2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 2 and 4 are objected to because of the following informalities: in order to accurately correspond to the claims from which they depend, it is believed that the phrase "cellular membrane" should be "cellular membrane permeability." Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "reduced", in product/article claims 5 and 12, is a relative term which renders the claims indefinite. The term "reduced" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The term "reduced" indicates both a current condition and a previous condition, as well as a change from the previous to the current state. A product, as it stands in its current state, cannot simply be "reduced", without reference to a standard or to the previous condition. Further, as an example, if two distinct food products each contain 350 ppb of acrylamide, where one naturally contained said amount and one had been processed according to the invention, given this data alone, it would be impossible for one skilled in the art to determine which one had been "reduced" from a previously higher amount, and which one was naturally at this level. Still further, it is noted that a food product cannot have a "reduced amount of acrylamide", if it never had a previous level of acrylamide, as is the case with food products which have not yet been heated to form acrylamide.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Sloan (US PAT 3,644,129).

Sloan discloses a method of processing potatoes prior to freeze drying and dehydrating. At column 1, lines 49-58, the reference states that

> Specifically, the process of the present invention comprises peeling the potatoes, cutting them into the desired physical shape, rinsing off the free starch, and then soaking them in a dilute solution of sodium bisulfite. The potato pieces are then blanched for from 5 to 30 minutes in water having a temperature of between 160° and 180° F. The pieces are then removed from the water and cooled for about 5 to 30 minutes in either air or water having a temperature of between 33° and 80° F. and thereafter, blanched a second time for about 5 minutes in water having a temperature of about 160° F.

The potato pieces are then freeze dried.

It is noted that the reference need not recognize alternative benefits or activities inherent to the disclosed process; the reference need only teach the same active method steps in order to anticipate the instant claims. Reference is made to pages 5 and 11 of the specification for various methods of extraction, which are encompassed by the instant claims and also taught by the reference. "Increasing the cellular membrane permeability of the food material" is accomplished by blanching, as claimed, and which is disclosed by the reference. The step of extracting the asparagine is accomplished by soaking the food material in cool water, which is also disclosed by Sloan. When vegetable material is immersed in a soaking or steeping solution, it may absorb solutes from the solution, but simultaneously, water still enters the steep solution from the vegetables, bringing with it soluble compounds from within the vegetables. When the steep solution is simply water, as disclosed by Sloan, no solutes enter the vegetables, and compounds are more readily leached from the vegetable material. Thus, the reference anticipates the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3 and 5-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elder et al. (Pub. No. US 2004/0058054).

Elder et al. discloses "a method for reducing the amount of acrylamide in thermally processed foods" (abstract). At paragraph 0004, it is stated that "acrylamide has especially been found in carbohydrate food products that have been processed at high temperatures. Examples of foods that have tested positive for acrylamide include coffee, cereals, cookies, potato chips, crackers, french-fried potatoes, breads and rolls, and fried breaded meats." Paragraph 0008 states that "an example of a thermally processed food ingredient is potato flakes, which is formed from raw potatoes in a process that exposes the potato to temperatures as high as 200.degree. C. Examples of other thermally processed food ingredients include processed oats, par-boiled and dried rice, cooked soy products, corn masa, roasted coffee beans and roasted cacao beans." A "significant formation of acrylamide has been found to occur when the amino acid asparagine is heated in the presence of a simple sugar" (par. 0009). At paragraph 0005, it is stated that "the ingredients for use in the manufacture of the thermally processed food product are leached to remove asparagine before the food ingredients are heated at temperatures above about 80 C." A "reduction of acrylamide in thermally processed foods can be achieved by inactivating the asparagine. By 'inactivating' is meant removing asparagine from the food or rendering asparagine non-reactive along the acrylamide formation route" (par. 0010). "Asparagine may also be inactivated as the precursor of acrylamide in a thermally processed food by leaching. The solubility of asparagine in an aqueous solution will be facilitated when the pH of the solution is maintained as slightly acidic or slightly basic, preferably between a pH of 5 and 9" (par. 0011).

Thus, given the direct teaching and guidance provided by the reference, it would have been obvious to one of ordinary skill in the art to have leached, or extracted, asparagine from food products known to have elevated acrylamide formation (and thus being high in asparagine content), by any of various means known in the art. Taking even the most generic definition from Webster's Ninth New

Collegiate Dictionary (1990), the term "leach" is well understood to mean "to dissolve out by the action of a percolating liquid", or "to subject to the action of percolating liquid (such as water) in order to separate the soluble components." The term "percolate" is defined in the dictionary as "to cause (a solvent) to pass through a permeable substance... especially for extracting a soluble constituent." As stated by the reference, this action would function to reduce the level of asparagine within the product, and ultimately prevent the formation of high levels of acrylamide within the final food product. The reference specifically disclosed various processed food products which were known to contain high levels of acrylamide. The reference provided further guidance toward this goal, by stating that "the solubility of asparagine in an aqueous solution will be facilitated when the pH of the solution is maintained as slightly acidic or slightly basic, preferably between a pH of 5 and 9." Finally, it is noted that page 5 of applicant's specification states that leaching is a "suitable extraction method." Thus, the claimed invention is considered obvious in light of the teachings of the reference, and the state of the art at the time the invention was made.

Regarding claims 5-14, it would have been obvious to one of ordinary skill in the art to have packaged and appropriately labeled the food products produced by Elder et al. Packaging and labeling techniques were well-known and common in the art, especially regarding any potential special feature that might draw the interest of the consumer. Regarding the particular message, it is noted that the printed word itself would not significantly change the claimed article of matter, and would not provide a patentable distinction, *per se*, over the known prior art package materials and methods. Regarding the specific amounts and percentage levels of asparagine and acrylamide in the resultant products of the instant claims, this would have been an inherent result of the natural function of the enzyme and method disclosed, as shown by the fact that Example 5 "reduced acrylamide formation by more than 99.9%." This would have been expected to function similarly across multiple food products, including snack chips and French fries, each of which contain free asparagine which would otherwise have been converted to acrylamide in the heating process. It is important to note that instant product/article claims 5-14 are not limited in their means of production, and thus need not be produced by an extraction of asparagine.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

i) Claims 5-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-50 of copending Application No. 10/606,260. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending claims are directed to food products with reduced amounts of asparagine and/or acrylamide; methods of making said products; and articles of commerce comprising said products. Both the instant and copending article claims are directed to an article of commerce comprising (a) a food product such as snack chips or French fries, with a reduced level of acrylamide; (b) a container for containing the product, and (c) a message associated with the container, wherein said message associated with the container informs the consumer that the product has a "reduced level of acrylamide."

ii) Claims 1-4 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 6 of copending Application No. 10/606,137. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are each directed to a method for reducing the level of acrylamide in a food material, comprising the step of reducing the level of asparagine in the food material. Copending claim 6 does not provide specific protocol for this procedure, and thus encompasses the instant claims.

iii) Claims 1-4 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 6 of copending Application No. 10/603,279.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they are each directed to a method for reducing the level of acrylamide in a food material, including a corn-based foodstuff, comprising the step of reducing the level of asparagine in the food material. Copending claim 6 does not provide specific protocol for this procedure, and thus encompasses the instant claims.

iv) Claims 1-4 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 10 of copending Application No. 10/603,973. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are each directed to a method for reducing the level of acrylamide in a food material, including coffee beans, comprising the step of reducing the level of asparagine in the food material. Copending claim 10 does not provide specific protocol for this procedure, and thus encompasses the instant claims.

v) Claims 1-4 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/603,278. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are each directed to a method for reducing the level of acrylamide in a food material, including cocoa beans, comprising the step of reducing the level of asparagine in the food material. Copending claim 1 does not provide specific protocol for this procedure, and thus encompasses the instant claims.

vi) Claims 5-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-14 of copending Application No. 10/603,978. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending claims are directed to food products with reduced amounts of asparagine and/or acrylamide; methods of making said products; and articles of commerce comprising said products. Both the instant and copending article claims are directed to an article of commerce comprising (a) a food product such as snack chips or French fries, with a reduced level of acrylamide; (b) a container for containing the product, and (c) a message associated with the container, wherein said message associated with the container informs the consumer that the product has a "reduced level of acrylamide."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Hendricks whose telephone number is (571) 272-1401. The examiner can normally be reached on M-F (8:30am-6pm); First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KEITH HENDRICKS
PRIMARY EXAMINER